

REMARKS

Claims 1-18 are all the claims pending in the application.

Claims 1-18 are rejected.

Claims 1, 4-6, 8, and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Holloway (U.S. Patent No. 6,521,248).

Claims 2, 3, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holloway in view of JP 2000-000447.

The Applicants traverse thee rejections and request reconsideration.

Claim Rejections Under 35 U.S.C. § 103

Rejection of Claims 1, 4-6, 8 and 18 based on Holloway

In responding to our arguments, the Examiner contends that the Applicants merely argued that Holloway is non-analogous art. However, this was not the thrust of the Applicants' argument. In fact, the Applicant did not mention anywhere that Holloway is non-analogous art. The Examiner is requested to provide a basis for such a conclusion on his part. The Applicants reiterate that they have no position on this issue at this point.

The Applicants argued that the Examiner has not shown where in Holloway each of the steps in the claimed process is suggested. Specifically, Holloway does not suggest at least the step of spontaneously generating hydrate nuclei by self-compression of the ultrafine bubbles. As argued in our previous response, the Examiner has not established a prima facie case of

obviousness because he has not satisfied at least the “all limitations” prong of the test for obviousness.

The Holloway patent is related to disrupting and fractionating a water structure. To some degree, water molecules come in clusters with a hydrogen-bonding network. This structure is disrupted with ultrasonic irradiation or the like to produce micro-clusters of water. This relates to the concept of further liquidizing liquid (including water).

Contrary to this, the present invention relating to gas hydrates focuses mainly on creating a more strengthened and well-ordered water structure. In the process of shrinking micro bubbles, internal pressure is increased. In this process gas is dissolved around the bubbles in proportion to the pressure of the bubbles. As this dissolution is much more effective compared to dissolution at ambient pressure, structure formation is promoted with gas molecules and then a solid phase (gas hydrate) is generated.

As described above, the concept of Holloway is the exact opposite of the concept of the present invention in terms of physical phenomena. In the method of Holloway, a solid phase is never deposited in water. Holloway does not disclose or suggest this point.

Claim 18 includes limitations analogous to the ones described above in relation to claim 1. Therefore, it should be patentable at least for analogous reasons.

Claims 4-6 and 8 are dependent on claim 1 and are allowable at least for the same reasons.

Rejection of Claims 2, 3, 7 and 9 based on Holloway in view of JP 2000-000447

Claims 2, 3, 7 and 9 are dependent on claim 1 and are allowable at least for the same reasons. Moreover, JP 2000-000447 does not overcome the deficiencies noted above in the

teachings of Holloway. Specifically, JP2000-000447 is related to a method of producing fine bubbles by mixing water and gas so it is not related at all to generation of gas hydrates.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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